PLUG IN AMERICA

Promoting plug-in cars, trucks and SUVs powered by cleaner, cheaper, domestic electricity to reduce our nation's dependence on petroleum and improve the global environment.

18 January 2008

ETAAC
c/o Steve Church <schurch@arb.ca.gov>
Research Division
California Air Resources Board
1001 I Street, PO Box 2815
Sacramento, CA 95812

Re: ETAAC Discussion Draft 12/21/2007, Appendix V

Dear Mr. Church,

Here is our third comment on the 12/21/07 ETAAC Discussion Draft. We have submitted these by topic, rather as one large item. This submission concerns "Appendix V: Background Status Report on Transportation Sector Solutions and Sources" section "A.2 Electric Vehicles". A related comment has been submitted on Appendix IV.

Page 9-76 says "Generally speaking, the key challenge for EVs is improved battery technologies since relatively little infrastructure is needed." We disagree with this statement. We believe that two existing battery technologies are sufficient to begin deployment of EVs: (1) road-proven NiMH battery technology, and (2) Lithium Iron Phosphate batteries already being mass produced for consumer products with safety and lifetime improvements beyond Lithium Cobalt batteries. We recommend deleting this statement.

Also, page 9-76 says "However, they are currently very expensive, largely due to battery costs." This statement is too broad. The expense of EV battery packs must be looked at in the context of specific vehicles. A PHEV battery pack with 10-20 miles of EV range requires a small battery pack, and the additional expense is covered in the reduction in operating cost savings during the lifetime of the vehicle. Deployment of PHEVs will begin volume production of EV batteries that will start battery cost reductions, which in turn allows incremental increases in PHEV EV range over time. A BEV battery pack has much higher cost than a PHEV battery pack, but is somewhat offset by the lack of a muffler, catalytic converter, transmission, engine, radiator, air filter, oil filter, alternator, etc. PHEV deployment should bring battery pack cost down to where the lack of the above components balances the battery pack cost. We recommend modifying the expense language to recognize the PHEV-10, PHEV-20, …, BEV progression.

We believe the summary information on page 9-76 is not accurate. In particular, it is completely out of line with the evaluations of other technologies in this appendix. Timeframe should be "Near to mid-term". This is demonstrated the spate of recent automaker announcements of PHEV products, and the success of BEVs still on California's roads today. Similarly, Ease of implementation should be "Very easy to somewhat challenging". This is clearly demonstrated by the BEV products sold several years ago, and the existence of after-market PHEV conversions.

We remind the ETAAC that the opportunities afforded by the progression from PHEVs to BEVs has both short-term and long-term benefits. Using data from www.fueleconomy.gov, after-market conversions, and electricity data for eGRID Subregion: WECC California from the EPA's Power Profiler, it is easy to calculate that an after-market conversion will emit only 139gCO2e/mi when operating from utility electricity, but 242gCO2e/mi from gasoline. The short-term benefit is obvious. As the report correctly states, the long-term benefit is the potential elimination of GHG emissions when BEV electricity is supplied from renewable wind, solar, geothermal, or hydro.

Sincerely,

Jay Friedland
Legislative Director
Plug In America